

ABSTRACT

ISOMETRIC CONTRACTION TRAINING FOR BASEBALL BAT SWING: LONG-TERM ADAPTATION AND ACUTE RESPONSE TO ISOMETRIC CONDITIONING ACTIVITY

This study investigated the acute effects of three warm-up activities [five standard bat swings, five weighted bat swings, and four sets of 5-second maximal voluntary isometric contraction (MVIC)] on baseball bat swing performance before and after 8 weeks of MVIC training. In addition, change in baseline performance after training was compared in order to examine the long-term training adaptations. The main purpose of this study was to examine acute performance enhancement effects of postactivation potentiation elicited by MVIC and the training effect on recovery from the conditioning activity. The maximal bat horizontal velocity of 20 collegiate baseball players (age >18) was measured with a computerized photosensing timer in the pre- and postconditioning activity state by hitting a baseball off a tee. After 8 weeks of training, subjects were retested to compare the acute and chronic responses to the conditioning activities. There was a significant increase in subjects' swing velocity and decrease in their perception of bat heaviness following MVIC conditioning activity after the completion of the MVIC training.

Takatoshi Higuchi
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